APRIVA®

Apriva® BT200-T Smart Card Reader for Window Mobile® Version 6.x

Installation and User's Guide

Apriva® BT200-T Smart Card Reader for Windows® Mobile® Version 6.x Installation and User's Guide

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Introduction

This guide provides instructions to install and operate the Apriva® BT200-T Smart Card Reader on mobile devices that use the Windows Mobile® version 6.x operating system. (Windows Mobile version 6.5 is currently not supported.)

NOTICE
For wireless connections, mobile devices must support Bluetooth® stack requirements. For more information, contact Apriva Technical Support. See *Apriva Technical Support* on page 17.

Definitions

Table 1 shows product terms and definitions used in this guide.

Term	Definition
Apriva Smart Card Reader	Apriva device for allowing an interface between a mobile device and a smart card.
Windows Mobile	Microsoft® operating system for mobile devices.
ActiveSync®	Microsoft software used to transfer files from computers that use the Windows XP operating system to mobile devices that use the Windows Mobile operating system.
Windows Mobile Device Center	Microsoft software used to transfer files from computers that use the Windows Vista® or Windows 7 operating systems to mobile devices that use the Windows Mobile operating system.

Table 1 – Definitions

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Hardware and Software Requirements

The following sections describe hardware and software requirements.

Hardware Required

The following hardware is required:

- Apriva BT200-T Bluetooth Smart Card Reader
- Mobile device
- Smart card
- USB cable with mini adapter
- Computer with Windows platform operating system (Windows XP, Windows Vista, or Windows 7) for transferring files to the mobile device or charging the battery.

  NOTE: You cannot charge the reader battery with computers that use Windows Vista or Windows 7 operating systems. See *Charging the Reader Battery* on page 9.

Software and Firmware Required

The following software and firmware are required:

- AprivaReader<*vxx_xx_xxxx-date*>.bin, where "<*xx_xx_xxxx*>" is the version number
- AprivaSmartCardDriver.<*xx.xx.xx*>.cab, where "<*xx.xx.xx*>" is the version number
- Microsoft ActiveSync or Windows Mobile Device Center
- Windows Mobile version 6.x (except version 6.5, which is currently not supported)

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Apriva BT200-T Reader

The Apriva BT200-T Reader uses a hardware security module with embedded public key infrastructure (PKI) information to create a secure, one-to-one connection with the mobile device through wireless Bluetooth protocol or a Universal Serial Bus (USB) connection.

Apriva Reader Features

Figure 1 shows the following Apriva Reader features:

- **ON/OFF button:** Powers the reader on and off.
- **GREEN/RED LEDs:** Indicate battery and connection statuses.
- **Smart card:** Activates the reader when inserted using embedded PKI information.
- **PC/CHARGE port:** Connects the reader to a computer or wall charger through a USB cable.
- **PDA port:** Connects the reader to a mobile device for a tethered (non-wireless) connection.

Figure 1 – Apriva Reader features

Powering on the Reader

When powered on, both LEDs illuminate while the reader performs a series of startup tests. For LED startup descriptions, see *Reader LED Startup Indications* on page 14.

To power the reader on or off:

Press the **Power On/Off** button on the top of the reader. If the reader will not power on (the LEDs are not lit), try charging the battery as described in *Charging a Completely Discharged Reader Battery* on page 14.

Installing the Reader Driver on the Mobile Device

You must install the Apriva Reader driver on the mobile device before you can pair the devices. See *Pairing the Devices* on page 6.

To upload the reader files to the mobile device:

1. If applicable, obtain the Apriva firmware and driver files from your system administrator. For more information, contact Apriva Technical Support. See *Apriva Technical Support* on page 17.
2. If you do not have one currently installed, download a data synchronization program, such as Microsoft ActiveSync (for Windows XP) or Windows Mobile Device Center (for Windows Vista or Windows 7). You can download the programs from the Microsoft website at: http://www.microsoft.com/windowsmobile/en-us/downloads/default.mspx
3. Connect the mobile device to the computer with the USB cable. Use the supplied adapter if necessary.
4. Power on the mobile device. The data synchronization program should start, showing the user interface of the mobile device on the computer. If the program does not start, make sure it is correctly installed and that the USB cable is correctly connected.
5. Copy and paste the Apriva reader firmware and driver files from the computer to the following directory of the mobile device: **Start** > **File Explorer** > **My Documents**, as shown in Figure 2 on page 5. The Apriva Reader file names are similar to the following:
   - AprivaReader<v*xx_xx_xxxx-date*>.bin, where "<*xx_xx_xxxx*>" is the version number.
   - AprivaSmartCardDriver.<*xx.xx.xx*>.cab, where "<*xx.xx.xx*>" is the version number.

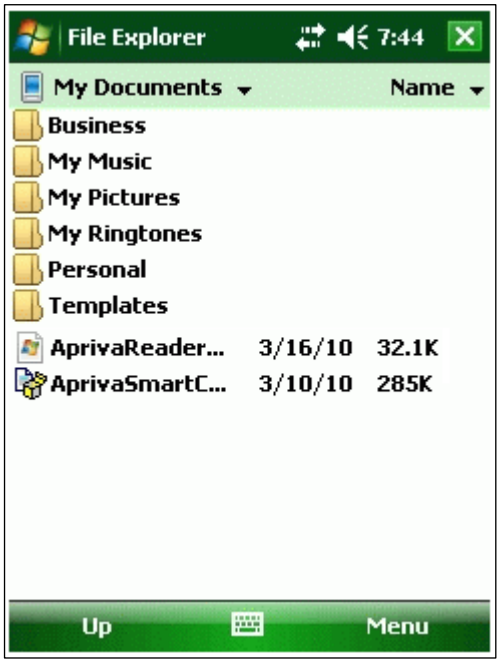

Figure 2 – Apriva Reader driver and firmware files

6. Select the **AprivaSmartCardDriver** file shown in the directory. Selecting the file automatically installs it. After installation, the mobile device restarts.

Pairing the Devices

Pairing the reader (and smart card) to the mobile device creates a one-to-one connection between the devices.

To pair with the reader to the mobile device:

1. Connect the USB cable to the **PDA** port on the reader, and then connect the other end of the USB cable to the mobile device. Use the supplied USB adapter if necessary.
2. Press the **ON/OFF** switch to power on the reader.
3. Insert the smart card in the reader.
4. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears. See Figure 3. If you do not see the Apriva Reader icon, you might need to reinstall the software. See *Installing the Reader Driver on the Mobile Device* on page 4.

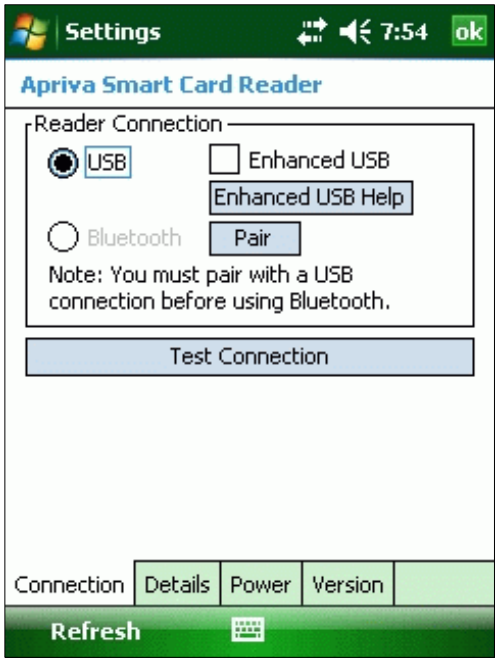

Figure 3 – Reader Connection area

5. Select **Test Connection** to make sure the devices are connected.
6. In the **Reader Connection** area, select **USB**. **Do not** select Enhanced USB. This feature is reserved for future Apriva reader versions.
7. Select **Pair**. After pairing, the "Pairing Complete" message appears.
8. Select **ok** to close the message box.
9. In the Reader **Connection** area, select the **Bluetooth** connection method to enable the (wireless) Bluetooth connection.
10. Disconnect the USB cable.
11. Select **Test Connection** to make sure the devices are connected through Bluetooth.

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- *If the test is successful,* the reader is now paired for wireless operation. When the reader is powered on and the smart card is inserted, the reader is available for Bluetooth operation. When the smart card is removed or when you power it off, radio frequency (RF) emissions stop and the reader is disabled.
- *If the test fails,* try the following, and then retest the connection:
  - Check the cables and make sure they are in the correct ports on device. See *Apriva Reader Features* on page 3.
  - Make sure that the reader battery is charged. See *Charging the Reader Battery* on page 9.

  Contact Apriva Support if the problem persists. See *Apriva Technical Support* on page 17.

Using Tethered USB Mode

You can disable Bluetooth (wireless) mode and use the reader in tethered USB mode. Tethered USB mode prevents wireless RF emissions. This is useful in situations where RF emissions are not allowed, such as airplanes or Sensitive Compartmented Information Facilities (SCIFs).

NOTE: The devices must be paired before you can switch between USB and Bluetooth modes. See *Pairing the Devices* on page 6.

Using Tethered USB Mode

If you are currently using the reader in Bluetooth mode, you can switch to USB mode.

To enable USB mode:

1. Connect the USB cable to the PDA port on the reader, and then connect the other end of the USB cable to the mobile device. Use the supplied USB adapter if necessary.
2. Make sure the smart card is inserted in the reader, and then press the **ON/OFF** switch to power on the reader.
3. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
4. In the **Reader Connection** area, select **USB**. **DO NOT** select Enhanced USB.
5. Select **Test Connection** to verify that the USB connection is working.

Switching to Bluetooth Mode

If you are currently using the reader in USB mode, you can switch to Bluetooth mode.

To enable Bluetooth mode:

1. Make sure the USB cable is connected to the reader.
2. Make sure the smart card is inserted in the reader, and then press the **ON/OFF** switch to power on the reader.
3. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
4. In the **Reader Connection** area, select **Bluetooth**.
5. Remove the USB cable.
6. Select **Test Connection** to verify that the Bluetooth connection is working.

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Charging the Reader Battery

The reader battery must be fully charged before use. It takes approximately three hours to charge a completely discharged battery. The LEDs on the top of the reader indicate the charge status. See *Charging Indications* on page 10.

NOTICE

If you are charging the battery with a computer that uses Windows XP, you must first install the Apriva USB driver. Failure to do so could drain the reader battery. See *Installing the Reader USB Driver* on page 10.

You cannot charge the reader battery with computers that use Windows Vista or Windows 7 operating systems. If your computer has one of these operating systems, you must use a wall charger to charge the battery.

To keep the reader functioning properly, **make sure the battery level is always at least 50%**. If the reader battery is completely discharged (LEDs do not illuminate when reader is powered on), charge the reader battery as described in *Charging a Completely Discharged Reader Battery* on page 14.

To view the battery voltage:

1. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
2. Select the **Power** tab. The Battery Level area shows the charge percentage and voltage. See Figure 4. A fully charged battery measures between 4.1 and 4.2 volts.

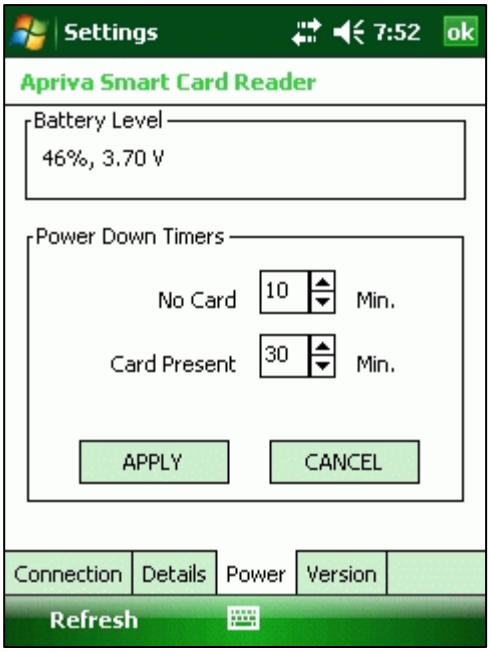

Figure 4 – Battery Level area

To charge the reader battery:

Connect the USB cable from the **PC/CHARGE** port on the reader to the USB port on the computer or a standard wall charger. Allow the battery to charge for **20 to 30 minutes**. When charging, the **GREEN** LED is continuously lit with occasional quick flashes.

Charging Indications

Table 2 shows reader LED charging indications. For general LED operation descriptions, see *Reader LED Descriptions* on page 15.

Indication	Description
GREEN LED is continuously lit with occasional quick flashes.	The reader is connected to a computer and the battery is charging.
GREEN LED is not continuously lit but blinks on every few seconds.	The reader has a sufficient charge.
RED LED is continuously lit.	The battery is low and needs to be charged.

Table 2 – LED Charging indications

Installing the Reader USB Driver

If you are using a USB connection to charge the battery (not a wall charger), and the battery does not seem to be charging, or if it takes more than one hour to charge, you might need to install the Apriva USB driver.

To install the USB driver and recharge the reader:

1. Download the USB driver from the Apriva downloads website. For driver download information, see *Apriva Technical Support* on page 17.
2. Connect the reader to the computer with the USB cable to start the driver installation wizard.
3. Follow the wizard instructions to install the USB driver.

After installing the driver, connect the reader to the computer with the USB cable to charge the reader.

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Setting the Reader Power Down Timers

You can set the amount time that elapses before the reader powers down when it is inactive. You can set the timers for when the reader has no smart card inserted (No Card) or when the smart card is inserted (Card Present).

To change the Power Down Timer settings:

1. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears. See Figure 5.

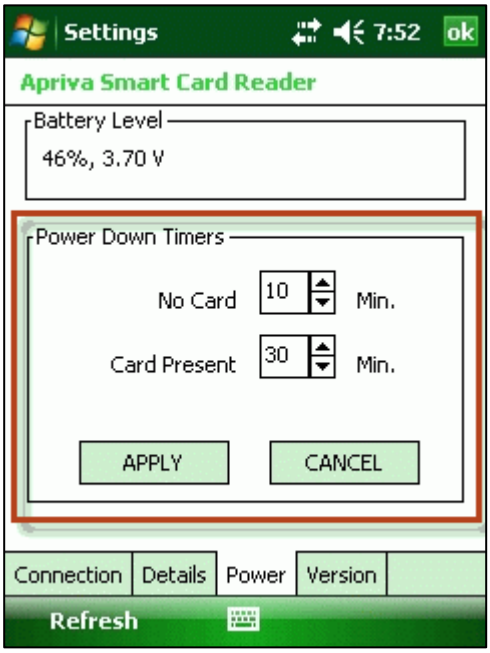

Figure 5 – Power Down Timers area

2. Select the **Power** tab.
3. Use the up and down arrows to change the time. The time range is **3** to **30** minutes.
4. Select **Apply** to save the changes.

Viewing Reader Details

The Details tab shows the following:

- **Reader Info:** Shows reader copyright, version, and serial number.
- **Reader Diagnostics:** Shows reader diagnostic results. If any of the diagnostics results show "Fail," contact Apriva Technical Support for assistance. See *Apriva Technical Support* on page 17.
- **Reader Firmware Signature:** Shows the reader firmware signatures.

To view reader information:

1. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
2. Select the **Details** tab. See Figure 6.

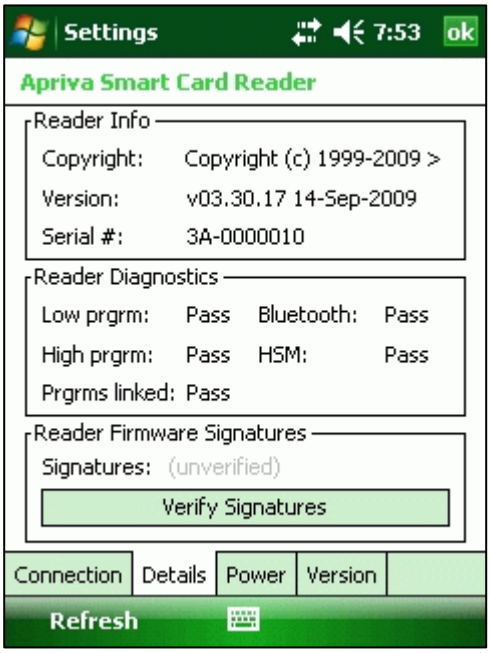

Figure 6 – Details tab

Viewing Reader Versions

The Version tab shows the driver and reader version information.

Viewing Reader Information

To view reader information:

1. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
2. Select the **Version** tab to view version information. See Figure 7.

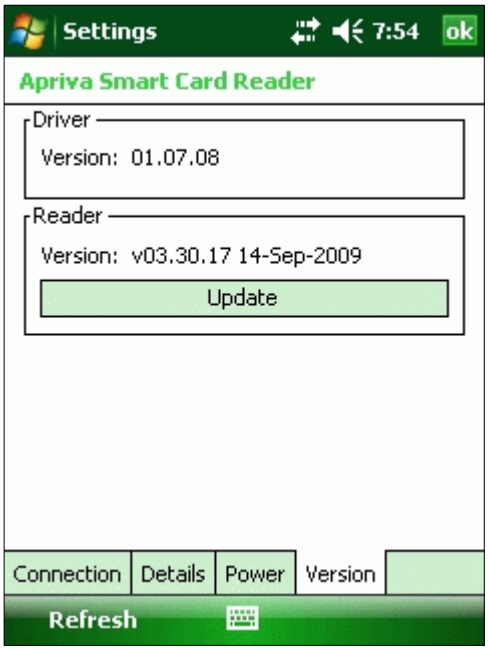

Figure 7 – Driver and reader version screen

Updating the Firmware

If the reader version is an earlier version that the version downloaded in Installing the Reader Driver on the Mobile Device on page 4, update the reader firmware.

NOTE: If you have downloaded a newer firmware version from the Apriva Secure Download website, be sure it is the correct version for the device before installing it on the reader.

To update the firmware:

1. From the mobile device applications menu, select the **Apriva Reader** icon ( ). The Apriva Smart Card Reader screen appears.
2. Select **Update**. The firmware version screen appears.
3. If applicable, select the most recent firmware version from the list. If the firmware installed on the reader is an earlier version than the one selected, the firmware is updated.

Reader Troubleshooting Tips

The following sections describe general reader troubleshooting tips.

Reader LED Startup Indications

When you power on the reader, the LEDs remain lit for a few seconds while the reader performs an integrity check. During the integrity check, the reader first determines if there is a USB connection and then adjusts the settings as follows:

- *If a USB connection is found,* the reader disables Bluetooth and uses the USB connection.
- *If a USB connection is not found,* the reader disables the USB option and looks for a Bluetooth pairing.
- *If the reader is not paired with the mobile device*, the reader powers off.
- *If the reader is paired with the mobile device,* the reader determines if Bluetooth is enabled.
- *If Bluetooth is not enabled,* the reader powers off.
- *If Bluetooth is enabled,* the LEDs blink every four seconds while awaiting the Bluetooth connection.

Charging a Completely Discharged Reader Battery

If the reader battery is completely discharged (the LEDs are not lit), the microprocessor that operates the LEDs might not be not be working, which may cause faulty LED indications. This is because the microprocessor requires enough battery voltage to operate the LEDs. If you find that the LEDs are not lit even when you are charging the battery, try the following procedure.

To charge a completely discharged battery:

1. Connect the USB cable from the **PC/CHARGE** port on the reader to the **USB** port on the computer or a standard wall charger. Allow the battery to charge for **20 to 30 minutes**.
2. Disconnect the reader from the charger.
3. Power the reader on to make sure the LEDs illuminate.
4. Reconnect the reader to the charger.
   - *If the LEDs still do not illuminate,* contact Apriva Technical Support. See *Apriva Technical Support* on page 17.
   - *If the LEDs are lit,* allow the battery to charge for about three hours, and then disconnect the USB cable. The battery is charged.

Reader LED Descriptions

Table 3 describes reader LED indications and their meanings.

Action	Indication	Meaning
Reader powered on using power button	Solid **GREEN** and solid **RED** for about two seconds	Normal power on indication while reader completes self test.
Battery test mode (about four seconds)	Solid **GREEN**	Battery over 75% charged, ready for reader operations.
	Rapid **GREEN** blinking (two per second)	Battery between 25% and 75% charged, ready for reader operations.
	Rapid **RED** blinking (two per second)	Battery less than 25% charged, you should charge before use.
	After four seconds both LEDs turn off	Normal transition to reader ready mode.
Reader ready mode	**GREEN** blinking (every four seconds)	No USB or Bluetooth connection, battery over 25% charged.
	RED blinking (every four seconds)	No USB or Bluetooth connection, battery less than 25% charged.
	GREEN blinking (every one second)	USB or Bluetooth connection, battery over 25% charged.
	RED blinking (every one second)	USB or Bluetooth connection, battery less than 25% charged.
Power down mode	**GREEN** and **RED** solid for about two seconds then both turn off	Power down indicates power switch pressed, card removed, reader not paired, no Bluetooth or USB connection, or inactivity timer expired.
Reader charging mode (Reader is connected to a charger or a computer through a USB cable)	Solid **GREEN** blinking off every four seconds	No USB or Bluetooth connection, reader charging. **NOTE:** If the reader is off when the cable is inserted, the reader will power on.

Table 3 – Reader LED descriptions

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Reader Error Messages

Table 4 provides information to help you troubleshoot reader errors and error messages. For errors not defined here or for additional support, contact Apriva Technical Support. See *Apriva Technical Support* on page 17.

Error Message	Possible Solution
The CardReader was not found.	Check the reader connection and make sure the reader is powered on.
Pairing cannot be performed using a Bluetooth connection.	The mobile device does not support the Bluetooth stack required for reader connection or USB pairing is not complete.
Please make sure the reader is attached and powered on before pairing.	Make sure both ends of the USB cable are connected and make that the LEDs indicate that the reader is powered on. See *Reader LED Startup Indications* on page 14.
The reader update process requires a USB connection.	Firmware updates require a tethered (non-wireless) connection. Make sure the mobile device is connected to a computer through a USB connection.
There is no application associated with AprivaReader xxxx (where xxxx is the version number). Run the file first, and then open the file from within the application.	The mobile device is trying to connect to an application that is not installed.
Apriva driver is busy, close all applications first.	The Apriva Smart Card Reader screen is currently open.

Table 4 – Reader error messages

Support

The following sections provide support information.

Apriva Technical Support

The Apriva Technical Support Department is available 24 hour a day, 7 days a week including holidays.

For prompt service, please have the following information available:

- Name
- Job title
- Address
- Phone number
- Email address
- Software version
- Mobile device operating system version
- Description of problem

Technical Support Contact Information

Toll-free customer support line (U.S. only): 866-277-9478

Countries outside the U.S.: 480-421-1303

Email: SCRsupport@apriva.com

Technical Support Links

Technical Support: http://iss.apriva.com/support.aspx

Software downloads: https://iss-software.apriva.com

Microsoft Product Support

For questions regarding Microsoft products, refer to the Microsoft Corporation website at www.microsoft.com.

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